Amendments to the Claims:

Please amend the claims to read as follows. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator including a set of spaced blades each extending in the direction of the actuation axis, each blade including a plurality of alternating low permeability and high permeability teeth;

a shuttle also including a set of spaced blades each extending in the direction of the actuation axis interleaved with the blades of the stator, each blade of the shuttle also including a plurality of alternating low permeability and high permeability teeth; and

an active component associated with either the stator, the shuttle, or both, the active component divided into at least N phases, each phase including a set of blades, a flux return portion, and a coil wound around the flux return portion to produce flux through the sets of interleaved blades in a direction substantially transverse to the actuation axis, wherein the set of blades is substantially electrically isolated from current supplied to the linear reluctance motor such that substantially no flux is generated by the set of blades.

2. (Original) The linear reluctance motor of claim 1 in which N is at least three.

3. (Original) The linear reluctance motor of claim 1 in which the stator defines a housing with a channel for receiving the shuttle therein.

4. (Original) The linear reluctance motor of claim 3 in which the channel is C-shaped.

5. (Original) The linear reluctance motor of claim 3 in which the channel is fully enclosed.

6. (Original) The linear reluctance motor of claim 3 in which the shuttle is telescopingly received in the stator.

7. (Original) The linear reluctance motor of claim 1 in which the phases are in series along the actuation axis.

8. (Original) The linear reluctance motor of claim 1 in which the phases are arranged laterally with respect to the actuation axis.

9. (Original) The linear reluctance motor of claim 1 in which the phases are arranged both axially and laterally with respect to the actuation axis.

10. (Original) The linear reluctance motor of claim 1 in which there is a large gap between the interleaved blades.

11. (Original) The linear reluctance motor of claim 1 in which there is a small gap between the interleaved blades.

12. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the stator and the phases are in series along the actuation axis.

13. (Original) The linear reluctance motor of claim 12 in which the stator defines a housing with a channel for receiving the shuttle therein, the blades of the shuttle extend into the channel and the blades of the stator are interleaved with the blades of the shuttle.

14. (Original) The linear reluctance motor of claim 13 in which the shuttle includes a blade carrier accessible outside the channel.

15. (Original) The linear reluctance motor of claim 14 further including a bearing assembly between the blade carrier and the stator housing.

16. (Original) The linear reluctance motor of claim 13 in which there is a large gap between the outermost blades of the shuttle and the flux return portion.

17. (Original) The linear reluctance motor of claim 13 in which the large gap is effected by tapered side walls of the shuttle housing.

18. (Original) The linear reluctance motor of claim 13 in which the blades of the stator and the blades of the shuttle are flexible in lateral bending and closely spaced.

19. (Original) The linear reluctance motor of claim 13 in which the blades of the shuttle are flexible and closely spaced to the blades of the stator.

20. (Original) The linear reluctance motor of claim 19 in which the blades of the shuttle have a thinned blade root.

21. (Original) The linear reluctance motor of claim 19 in which the blades of the shuttle have a slotted blade root.

22. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the stator which has, for each phase, an opposing set of blades, a coil therebetween, and a flux return plate.

23. (Original) The linear reluctance motor of claim 22 in which the phases are arranged in series along the actuation axis.

24. (Original) The linear motor of claim 23 in which the stator includes a housing surrounding the blades and the flux return plates and the shuttle includes a housing telescopingly received in the stator housing.

25. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the shuttle and the phases are arranged in series along the actuation axis.

26. (Original) The linear reluctance motor of claim 25 in which the stator defines a housing with a channel for receiving the shuttle therein, the blades of the stator extend into the channel, and the blades of the shuttle are interleaved with the blades of the stator.

27. (Original) The linear reluctance motor of claim 26 in which the stator housing includes a longitudinal slot and the shuttle includes a fin extending through the slot connected to a driving element located outside the channel.

28. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the stator and the phases are arranged laterally.

29. (Original) The linear reluctance motor of claim 28 in which the stator defines a housing with a channel for receiving the shuttle therein, the blade sets of the stator are adjacent each other across the channel, and the blade sets of the shuttle are adjacent each other across the channel.

30. (Original) The linear reluctance motor of claim 29 in which the blade sets of the shuttle extend into the channel from a carrier.

31. (Original) The linear reluctance motor of claim 30 further including a sliding shutter attached to the carrier for sealing the channel of the stator.

32. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the shuttle which includes phases distributed axially and laterally.

33. (Original) The linear reluctance motor of claim 32 in which the stator includes a housing defining a channel therein, and at least a pair of adjacent blade sets opposing another pair of adjacent blade sets.

34. (Original) The linear reluctance motor of claim 33 in which the shuttle includes at least a first pair of adjacent blade sets opposing a second pair of adjacent blade sets defining two phases and a third pair of adjacent blade sets opposing a fourth pair of adjacent blade sets defining two additional phases.

35. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the shuttle which travels within the stator and connected to a carriage external to the stator by a cable and pulley subsystem.

36. (Original) The linear reluctance motor of claim 1 in which the stator is active and includes phases in series along the actuation axis and the shuttle is telescopingly received in the stator.

37. (Currently amended) The linear reluctance motor of claim 1 in which the stator has a set of opposing outwardly extending blades for each phase and the shuttle has ~~a sets~~ a set of opposing inwardly extending blades.

38. (Original) The linear reluctance motor of claim 1 in which the teeth are straight.

39. (Original) The linear reluctance motor of claim 1 in which the teeth are angled.

40. (Original) The linear reluctance motor of claim 1 in which each tooth is a laminate construction.

41. (Original) The linear reluctance motor of claim 1 in which each blade is formed from a low permeability material and the high permeability teeth are formed by adding high permeability material to the low permeability material of the blade.

42. (Original) The linear reluctance motor of claim 1 in which each blade is formed from a high permeability material and the low permeability teeth are formed by adding low permeability material to the high permeability material of the blade.

43. (Original) The linear reluctance motor of claim 1 in which each blade includes a reinforcing layer on the outside thereof.

44. (Original) The linear reluctance motor of claim 1 in which each blade includes a high permeability coupon bonded to a low permeability coupon.

45. (Original) The linear reluctance motor of claim 1 further including vacuum compensation means for allowing the shuttle to be actuated without contaminating the blades.

46. (Original) The linear reluctance motor of claim 1 in which the active component is associated with the stator, the stator is attached to a structural tube, the blades of the shuttle connect to a structural beam, said beam is attached at the end to a tubular housing which is telescopingly connected to said structural tube, and said tubular housing is external to said structural tube.

47. (Original) The linear reluctance motor of claim 1 in which at least one phase is divided into at lease two magnetic circuits, each circuit having a coil, a flux-return a blade-set, said flux-returns being inwardly opposed so as to minimize leakage flux.

48. (Original) The linear reluctance motor of claim 1 in which the length of the interleaved portion of the stator and shuttle blades changes as the shuttle moves.

49. (Original) The linear reluctance motor of claim 1 in which the shuttle is relatively short and the stator long, the active component is associated with the stator, the

blades of shuttle substantially overlap at least three phases, and the stator has more phases than can be engaged by the shuttle at any given position.

50. (Original) The linear reluctance motor of claim 1 in which the interleaved blades define an average gap between the blades and an outer gap.

51. (Currently amended) The linear reluctance motor of claim ~~51~~ 50 in which the outer gap is larger than the average gap.

52. (Original) The linear reluctance motor of claim 51 in which the outer gap is between the outer blades of the shuttle and the outer blades of the stator.

53. (Original) The linear reluctance motor of claim 51 in which the outer blades of the shuttle are flexible in lateral bending.

54. (Original) The linear reluctance motor of claim 53 in which the outer gap is between the outer blades of the stator and the flux return portions.

55. (Original) The linear reluctance motor of claim 54 in which the flux return portion tapers outwardly away from the outer blades of the stator.

56. (Original) The linear reluctance motor of claim 1 in which the blades of the shuttle and/or the stator have a thinned blade root or a slotted blade root.

57. (Original) The linear reluctance motor of claim 1 in which the stator defines a housing with a longitudinal slot and the shuttle includes a fin extending through the slot.

58. (Original) The linear reluctance motor of claim 1 in which the stator defines a channel and further including a sliding shutter for sealing the channel of the stator.

59. (Original) The linear reluctance motor of claim 1 in which the shuttle is telescopingly received in the stator.

60. (Original) The linear reluctance motor of claim 59 in which the active component is supported by a structural beam.

61. (Original) The linear reluctance motor of claim 1 in which the shuttle and the stator define inner and outer telescoping tubes, the inner tube connected to the active component and the passive blades connected to a structural beam connected on one end to the outer tube.

62. (Original) The linear reluctance motor of claim 1 further including at least one push rod extending from the shuttle.

63. (Original) The linear reluctance motor of claim 1 further including a tension element connected to the shuttle.

64. (Original) The linear reluctance motor of claim 1 in which the shuttle is shorter than the stator.

65. (Original) The linear reluctance motor of claim 1 in which the shuttle is longer than the stator.

66. (Original) The linear reluctance motor of claim 1 further including conductors for powering the coils.

67. (Original) The linear reluctance motor of claim 66 in which the conductors are stationary with respect to the active component.

68. (Original) The linear reluctance motor of claim 66 in which the conductors are extensible.

69. (Currently amended) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator divided into N phases in sets, each phase including a set of opposing spaced blades extending in the direction of the actuation axis and outwardly towards a stator housing, the set of blades being substantially electrically isolated from current supplied to the linear reluctance motor such that substantially no flux is generated by the set of blades, each phase including:

a flux return plate; and

a coil wound around the flux return plate to produce flux in a direction substantially transverse to the actuation axis[[,]]; and

~~a flux return plate on each end of the coil; and~~

a shuttle including a set of opposing spaced blades extending in the direction of the actuation axis and inwardly from a shuttle housing to interleave with the blades of the stator;

the shuttle housing telescopingly received in the stator housing.

70. (Original) The reluctance motor of claim 69 in which N is at least three.

71. (Currently amended) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator including a set of spaced blades each extending in the direction of the actuation axis, each blade including a plurality of alternating low permeability and high permeability teeth;

a shuttle also including a set of spaced blades each extending in the direction of the actuation axis interleaved with the blades of the stator, each blade of the shuttle also including a plurality of alternating low permeability and high permeability teeth; and

an active component associated with the stator, the active component divided into at least N phases in series, each phase including a set of blades, a flux return portion, and a coil wound around the flux return portion to produce flux through the sets of interleaved blades in a direction substantially transverse to the actuation axis, wherein the set of blades is substantially electrically isolated from current supplied to the linear reluctance motor such that substantially no flux is generated by the set of blades.~~; and~~

the stator defining a housing with a channel for receiving the shuttle therein, the blades of the shuttle extending into the channel and the blades of the stator interleaved with the blades of the shuttle.

72. (Currently amended) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator including a set of spaced blades each extending in the direction of the actuation axis, each blade including a plurality of alternating low permeability and high permeability teeth;

a shuttle also including a set of spaced blades each extending in the direction of the actuation axis interleaved with the blades of the stator, each blade of the shuttle also including a plurality of alternating low permeability and high permeability teeth; and

an active component associated with the shuttle, the active component divided into at least N phases in series, each phase including a set of blades, a flux return portion, and a coil wound around the flux return portion to produce flux through the sets of interleaved blades in a direction substantially transverse to the actuation axis, wherein the set of blades is substantially electrically isolated from current supplied to the linear reluctance motor such that substantially no flux is generated by the set of blades,~~; and~~

the stator defining a housing with a channel for receiving the shuttle therein, the blades of the stator extending into the channel and the blades of the shuttle interleaved with the blades of the stator.

73. (Currently amended) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator including a set of spaced blades each extending in the direction of the actuation axis, each blade including a plurality of alternating low permeability and high permeability teeth;

a shuttle also including a set of spaced blades each extending in the direction of the actuation axis interleaved with the blades of the stator, each blade of the shuttle also including a plurality of alternating low permeability and high permeability teeth; and

an active component associated with the stator, the active component divided into at least N phases arranged laterally, each phase including a set of blades, a flux return portion, and a coil wound around the flux return portion to produce flux through the sets of interleaved blades in a direction substantially transverse to the actuation axis, wherein the set of blades is substantially electrically isolated from current supplied to the linear reluctance motor such that substantially no flux is generated by the set of blades,~~; and~~

the stator defining a housing with a channel for receiving the shuttle therein, the blade sets of the stator adjacent each other across the channel, and the blade sets of the shuttle adjacent each other across the channel.

74. (Original) A linear reluctance motor having an actuation axis, the linear reluctance motor comprising:

a stator including a set of spaced blades each extending in the direction of the actuation axis, each blade including a plurality of alternating low permeability and high permeability teeth;

a shuttle also including a set of spaced blades each extending in the direction of the actuation axis interleaved with the blades of the stator, each blade of the shuttle also including a plurality of alternating low permeability and high permeability teeth;

an active component associated with the shuttle, the active component divided into at least N phases distributed axially and laterally, each phase including a set of blades, a flux return portion, and a coil wound to produce flux through the sets of interleaved blades in a direction substantially transverse to the actuation axis;

the stator including a housing defining a channel therein, and at least a pair of adjacent blade sets opposing another pair of adjacent blade sets; and

the shuttle including at least a first pair of adjacent blade sets opposing a second pair of adjacent blade sets defining two phases and a third pair of adjacent blade sets opposing a fourth pair of adjacent blade sets defining two additional phases.